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The deficit country is absorbing more, taking consumption and investment together, than its own production; in this sense, its economy is drawing upon savings made for it abroad. In return it has a permanent obligation to pay interest or profits to the lender. Whether this is a good bargain depends upon the nature of the use to which the funds are put. If they merely permit an excess of consumption over production, the economy is on the road to ruin.

Joan Robinson, Collected Economic Papers, Volume IV
Basil Blackwell Oxford, 1973

THE GREAT FUDGE

Wall Street enjoyed a happy August in the gleeful expectation that the Fed would not spoil the party by hiking its interest rate at the Federal Open Market Committee meeting on Aug. 22nd. Any lingering doubts had been dispelled by the productivity data reported slightly earlier which had surpassed the most optimistic expectations. Hope that Fed tightening has run its course has helped both the bond and especially the stock market to a significant rally. What's more, given the proximity to the presidential election, no rise is expected in October. Rather trickier, though, is the question of what actually led Mr. Greenspan to his monetary abstinence.

The conventional American view has it that the present rates of inflation are too low to justify further rate hikes. For sure, they are low in comparison to the atrocious rates experienced in the 1970s. But in today's global environment, the U.S. inflation rates are distinctly the highest among the major industrial countries, despite the strong dollar and the massive diversion of excess domestic demand into the soaring imports. Inflation problems, in fact, abound in many ways: the extremely tight labor market now fueling wage rate hikes around 5%, the monstrous trade deficit, and exploding private debts, to name just the most obvious and the most dangerous components of this bubble. There is no doubt that the Fed ought to tighten for a host of reasons. One compelling reason, though, speaks against it. Four or five years of the most rampant leverage/financial boom in history have made the U.S. economy and its financial system far too vulnerable to be exposed to truly serious monetary tightening. In short, the Fed cannot afford to pull the brakes.

For good reasons, Mr. Greenspan has been hoping that the economy will slow of its own accord. This is now his only option. On the surface, the U.S. economy looks as strong as ever. But a closer look at the second quarter reveals a lot of deceptive strength. More importantly, the stock market is doing the job for him by means of its failure to deliver new wealth effects, and slower growth will soon ravage profits. Bear in mind, cessation of new wealth effects is enough to derail consumer spending.

In this letter we take another critical look at the miraculous effects of the computer revolution on the U.S. economy. We can only repeat what we have said many times before: The figures reported in the United States on industrial production, GDP, productivity and inflation that stand as testament to the U.S. economy's new paradigm efficiency are grossly bloated by the use of the so-called hedonic price index in measuring computer output and investment. In recent reports, Organization for Economic Cooperation and Development and Bundesbank, as cited in this letter, have confirmed that this statistical technique badly distorts comparisons between the U.S. economy and other economies. Considering the key role of the hedonic price index in creating the image of a new paradigm U.S. economy, we have investigated whether this statistical technique really does make economic sense. Our answer: No, it's economic bogus.

THE DEVIL IS IN THE DETAIL

In the last letter, we admonished that the U.S. economy's performance in the second quarter should not be

judged by its overall rate of growth but by the compositional changes, owing chiefly to the fact that sharply lower growth in consumer spending would be offset by higher inventory building. As usual, the consensus saw nothing but the surprisingly strong aggregate figures, hailing them instantly as a sign that the economy remains as strong as before. Conveniently, a sharply lower GDP deflator added substantially to the reported growth rate and helped to squash any inflation fears. Nobody bothered to look for the specific causes of this unexpected strength. A closer look leads to the conclusion that there is rather more appearance than reality in this strength. As so often, the devil is in the detail.

CONTRIBUTIONS TO PERCENT CHANGE IN REAL U.S. GDP								
	1998	1999	1999				2000	
			I	II	III	IV	I	II
GROSS DOMESTIC PRODUCT	4.4	4.2	3.5	2.5	5.7	8.3	4.8	5.2*
CONTRIBUTIONS TO REAL GDP GROWTH IN PERCENTAGE POINTS AT ANNUAL RATE								
PERSONAL CONSUMPTION	3.12	3.52	3.73	3.67	3.43	4.08	5.03	2.08
GROSS PRIVATE INVESTMENT	2.06	1.15	0.60	0.01	2.50	3.04	0.92	3.57
NONRESIDENTIAL	1.54	1.26	1.15	1.18	1.47	1.22	2.54	2.41
FIXED INVESTMENT	1.87	1.53	1.49	1.43	1.33	1.26	2.68	2.58
RESIDENTIAL	.33	.27	.34	.25	-.13	.03	.14	.17
INVENTORIES	.20	.37	-.89	-1.42	1.17	1.78	-1.76	.99
NET EXPORTS OF								
GOODS AND SERVICES	-1.20	-1.03	-1.44	-1.35	-1.08	-.37	-.94	-1.51
GOVERNMENT EXPENDITURES	.38	.59	.64	.13	.84	1.50	-.18	1.05

*percent change from preceding period

Source: Survey of Current Business, Department of Commerce

Consumer spending, the main engine of the current U.S. expansion, has indeed slowed drastically in the second quarter. After a steep increase of \$181.5 billion in the first quarter, it slowed sharply to an increase of \$91.7 billion. With this amount, it added little more than two percentage points to real GDP growth, as against more than five percentage points in the first quarter. One offsetting factor, as expected, was inventory stockpiling, contributing almost one full percentage point to second quarter's GDP growth.

In addition to inventory accumulation, the table shows two further major sources of economic strength in the second quarter. We hasten to add: two sources about which we have strong reservations concerning the validity of the numbers. The one, on the bottom line, is exceptional government spending, and the other one is fixed investment.

Federal government spending soared in the second quarter by \$20 billion, or 17%, most of it defense spending. That's a tremendous increase for one quarter. In reality, it's a statistical fiction due to the American practice of presenting quarterly GDP numbers at annualized rates, implying that each number is quadrupled. This practice has some advantages, but it becomes grossly misleading when applied to one-time, irregular changes in spending, such as in this case. Precisely the same holds true, of course, to the sudden jump in inventories in the second quarter. Considering that these two components account for fully two percentage points, or 40%, of the reported 5.3% GDP growth rate in the second quarter, that number certainly loses quite a lot of its luster.

Last but not least, we look with a wary eye at the outsized numbers for fixed investment. They suggest skyrocketing investment in plants and equipment, accounting for 56% in the first quarter and for 50% of total GDP growth in the second quarter. We shall look at these numbers later in this letter.

LOPSIDED COMPARISONS

Evidently the American practice of annualizing a number of economic data makes for occasional, major

distortions in the statistical picture. Far more importantly, it distorts international comparisons. Consider that the sensational, annualized U.S. GDP rate of 5.3% for the second quarter shrinks to an inconspicuous 1.3% in European terms. One has to wonder how the markets would have responded to that number. It definitely is not of a kind that seems prone to excite people and hype markets. Euroland's most recent quarterly real GDP growth rate, by the way, was 0.9%. What's more, the inflated American GDP numbers get a lot of publicity since the Commerce Department reports them three times each quarter, starting with an "advance" estimate followed by two revisions.

Very few people seem to be aware that this statistical practice of annualizing quarterly figures is unique to America. The essential upshot is continuous lopsided reporting in the world press. True, the U.S. economy in the last few years has outperformed the European economy. Yet this divergence in statistical presentation certainly tends to create an exaggerated perception of U.S. economic strength. Even the leading international papers generally report the quarterly GDP data for all countries as officially announced, without any hint to the existing discrepancy in calculation and presentation.

IN GOOD FAITH?

Still, this specific distortion in statistical presentation pales in importance to two others, we have repeatedly reported. Observing the euphoria about recent U.S. economic data, we thought it desirable to revisit this issue in light of the latest numbers.

The one results from the sweeping difference between America and the rest of the world in the statistical measurement of computer output in terms of real GDP. It appears that very few people know of this crucial divergence in the statistical treatment, let alone of its eminent importance. Mr. Greenspan, surely, belongs to the few who do know. Yet it doesn't prevent him from drawing misleading comparisons between economic growth in America and Europe, like the following:

An intriguing aspect of the recent wave of productivity acceleration is that U.S. businesses and workers appear to have benefited more from the recent advances in information technology than their counterparts in Europe and Japan. Those countries, of course, have also participated in this wave of invention and innovation, but they appear to have been slower to exploit it. The relatively inflexible and, hence, most costly labor markets of these economies appear to be a significant part of the explanation. The elevated rates of return offered by the newer technologies in the United States are largely the result of a reduction in labor costs per unit of output. The rates of return on investment in the same new technologies are correspondingly less in Europe and Japan because businesses there face higher costs of displacing workers than we do.

What's wrong with this statement which, incidentally, perfectly conforms with the predominant perception in the markets? First of all, his argument about the negative influence of high labor costs and an inflexible labor market on European business investment in technology, new or old, lacks any logic. High and rigid labor costs tend to specifically stimulate cost-reducing investment spending, while low and flexible labor costs inherently reduce the need for such investment. What bothers us much more is whether Mr. Greenspan, being the famous number cruncher, could be truly oblivious about the decisive cause behind this striking discrepancy in the impact of the new technology on overall output and productivity growth between the U.S. economy and the economies of Europe. It's hard to believe that he says these things in good faith. But to think that he is ignorant of the true facts is even more disquieting.

Though we have said it many times before in these letters, we reiterate it once more: **The appalling divergence between America and Europe both in the size of the new technology sector and in its measured macroeconomic effects derives overwhelmingly from the existing gross difference in their statistical**

measurement. The extraordinary rise of computer output and spending as a share of GDP in the United States is of largely statistical origin and founded in America's solitary invention and application of the so-called hedonic price deflator for calculating output changes in its high-tech industry.

THE OECD CONFIRMS

For quite some time it has confounded us that this flagrant discrepancy in the statistical measurement of the high-tech industries has been flatly ignored for years. Therefore, we are happy to note that the respected international OECD has, finally, publicly taken notice. Its most recent Economic Outlook contains the following remark:

The rapid pace of technological advance in the computer industry complicates the statistician's task on how to divide nominal changes into volume and price developments. The ability of a "standard" personal computer to process, store and send information has risen dramatically in the past 10-15 years. Over the 1990s the standard microprocessor speed has increased 16-fold, and both the standard storage capacity and the transmission speed have risen more than 200 times. With all these quality changes in the basic personal computer, it is difficult to equate one unit today with one unit a decade ago...

Different methods are applied to measure price and quantity developments in computer production and spending. They range from no effort to adjust for quality changes, over judgmental approaches to more complete quality adjustments with "hedonic" and similar methods. When no adjustment is made, the price index is computed from the price per computer unit, and the quantity index is based on the number of units produced or sold.

The "hedonic" method unbundles the market price of the computer into its most important technical characteristics, and prices each characteristic separately...The "hedonic" price index is the average price of all the characteristics, and the quantity index is based on nominal values deflated by this price index. The large discrepancies in producer price developments in the office, accounting and computing equipment sectors across countries are likely to reflect to a large extent different methodologies. Thus, the sharp measured drop in prices of such goods in the United States reflects the use of "hedonic" methods. By contrast, the modest fall or even increases in producer prices of office, accounting and computing equipment in many European countries may be due to the predominant "conventional" methods in deriving price indexes. This suggests that quantities produced, and productivity trends, in these sectors are underestimated in these countries...

Obviously conscious of the delicacy of the subject, the OECD chooses to shroud its elaboration into the most cautious language, presenting it as just a possible explanation. In reality, the facts are easy to check. All that needs to be done is to compare the increases in computer investment measured in chained dollars and incorporating the hedonic price index with the increases measured in current dollars.

STATISTICAL WIZARDRY

The following two tables (see page 5), both covering the six quarters between end-1998 and mid-2000, show vastly different numbers. Yet they relate to the very same aggregate in GDP – business spending on computer hardware and software. While the first table chronicles what has actually been spent in terms of current dollars, the second table reflects this spending after the adjustments that the American statisticians regard desirable or necessary in order to express the economic benefits implicit to all investment in the new technology.

An important thing to be said about the first table (Private Investment in Computer) is probably that virtually nobody takes any notice of these numbers. They tell that spending by U.S. businesses on computer hardware,

PRIVATE INVESTMENT IN COMPUTERS AND PERIPHERAL EQUIPMENT							
<i>Billions of dollars</i>							
	1998			1999			2000
	IV	I	II	III	IV	I	II
	86.3	88.1	92.8	97.6	98.9	104.3	114.2
REAL PRIVATE INVESTMENT IN COMPUTERS AND PERIPHERAL EQUIPMENT							
<i>Billions of chained (1996) dollars</i>							
	1998			1999			2000
	IV	I	II	III	IV	I	II
COMPUTERS	171.3	186.1	208.5	230.9	243.8	264.1	298.5
SOFTWARE	167.3	173.3	181.1	192.5	205.3	215.0	227.5

Source: Survey of Current Business

measured in current dollars, increased by \$28 billion altogether during these six quarters. This contributed 3% to nominal GDP growth and a little more than 10% to overall growth in private fixed investment. Obviously nothing to write home about.

Now to the miracles. In the real GDP accounts, which is the data that everybody focuses on, this modest sum of \$28 billion actually spent in current dollars soars to \$127 billion in chained dollars. The magic wand that does this is the hedonic deflator. In a wink, it catapults the contribution of computer investment to GDP growth from 3% in current dollars to 20% in chained dollars, while the computer share in fixed investment balloons from 10% to 51%.

As explained, this exponential rise of computer investment in the real GDP accounts is, strictly speaking, neither a measure of effectively higher spending nor the measure of an effective steep decline in computer prices. What the numbers are supposed to reflect is the soaring "computer power" that businesses are getting at given prices for their money, adding correspondingly to real GDP growth. As the power per computer, captured by the hedonic deflator, is rising at accelerating speed, the hedonic deflator is making an ever larger contribution to real GDP growth, however modest the actual increase of such spending in current dollars. Since 1995, the hedonic price of computers has been falling at an annual rate of 30-40%. That's double the rate of decline before 1995, and more than three times the rate of price decline ten years ago.

Yet there is another major American-made statistic novelty at work substantially padding U.S. real GDP growth. It concerns the statistical treatment of software spending. See the second line of second table. Last year, the U.S. government statisticians chose unilaterally to no longer treat expenditures on computer software as a business expense but as capital investment. The importance of this change arises from the fact that business expenses, principally, don't enter the GDP accounts. By labeling the expenditures for software as investment spending, it now qualifies as an addition to GDP. This effect, too, is by no means trivial. Incidentally, it's also a device to boost profits. In Europe, by the way, such treatment of software expenditure by a firm would be regarded as a sign of weakness.

Capitalized software spending has lately been running at an annual rate of \$227 billion, both in current and in chained dollars. Given computer hardware investment of \$298 billion in chained dollars, the two together have run up to overall \$525 billion in chained dollars in the second quarter of 2000. During the six quarters until mid-2000, the two statistical devices – that is, hedonic price indexing and the capitalization of software spending – have together added \$187.7 billion to real GDP growth. That was 32% of the real GDP growth and 65% of the growth in nonresidential fixed investment during this period.

TWO-TIER STATISTICS, NOT TWO-TIER ECONOMY

Pointing to the tremendous divergence in growth between New and Old Economy, some economists are speaking of a two-tier U.S. economy. In this view, the rapidly growing share of the new technology sector in the GDP eerily

confirms the prevailing perception that the U.S. economy is racing ahead of other countries in exploiting the new technology and thereby reaping its fabulous reported productivity gains. It's the prevailing perception, yes, but no more. We have been heeding this discussion in blank amazement, being aware that the high-tech sector in the United States derives its stellar growth numbers overwhelmingly from the special statistical treatment of computer hardware and software.

To repeat: The United States is unique among all countries not only in applying the furious hedonic deflator as a measure for computer investment but also in counting software expenditures as capital investment. Considering the big effects of these two statistical devices on recorded U.S. GDP growth, the U.S. technology and GDP data have evidently lost any comparability with corresponding data of other countries. The most compatible data for international comparison is the effective increase in computer investment by \$28 billion, accounting for a mere 3% of nominal U.S. GDP growth, being measured in current dollars.

This soaring divergence in the demand components of GDP has its counterpart on the production side of the economy in spades. A distinctive highlight in the U.S. economy's performance is an unprecedented spurt of manufacturing both in output and productivity growth during the past year at an annual rate of more than 6%. Given stagnant employment in manufacturing, any rise in output essentially translates into a corresponding acceleration in productivity growth.

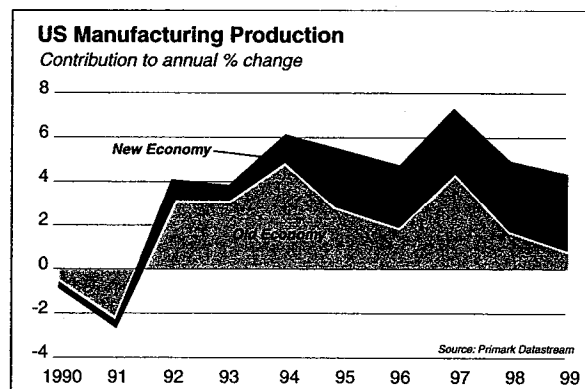
Again, a closer look provides sobering insights. The awkward fact is that this imposing average results from two completely incompatible parts. The one part comprises the three high-tech industries of the New Economy: computers and office equipment, communications equipment and semiconductors. While making up only about 10% of factory output, their production is up nearly 50% year-over-year. The other part is the Old Economy, comprising 17 branches and accounting for about 90% of manufacturing. Its output is up just 1.7% year-over-year, reflecting mostly inventory building. After a brief spurt toward the end of last year, these traditional industries have hardly grown at all. This pattern of a narrowly-based surge in the three high-tech branches also explains, by the way, the persistent weakness in the purchasing managers' indexes. While the official statistics give massive weight to the rising technology output, this index gives it the same weight as the other 17 industries.

MIRAGE, NOT MIRACLE

Now to the alleged productivity miracle. Given virtually stagnant employment, output growth broadly coincides with productivity growth. Meaning: The recorded 50% increase in the 10% of total factory output, representing the New Economy, is matched by an equal rate of productivity growth: 50% per annum. Actually, this productivity gain in the high-tech branches does account for all of the recorded improvement in total manufacturing. The other 90% of the manufacturing sector, representing the Old Economy, has remained stuck with unchanged productivity growth of around 2% at annual rate. These findings are confirmed in separate reports from J.P. Morgan and Business Week.

The U.S. economy's performance in recent years has been the envy of the world. Not only has it shown steady, strong GDP growth, but also outstanding employment and, above all, soaring productivity growth. There is nothing new about a cyclical divergence between America and Europe. What is new, however, is that American economists have acquired the habit to elevate transient, cyclical divergence to permanent, structural divergence.

Today's New Era story about the wondrous effects of the new information technology and corporate shareholder-value governance in the 1980s has had its precise parallel in the New Era story of Reaganomics and supply-side tax



cuts, while Europe's slower growth was attributed to general inflexibility of governments, corporations and labor, altogether scornfully labeled as Euro-sclerosis. The end of this New Era of the 1980s is well known: dollar collapse, recession and the S&L disaster.

Comparing the present New Era of the U.S. economy with that of the 1980s, the first thing that strikes the eye is that measured real GDP growth in the 1980s effectively exceeded that in the 1990s. During the upswing of 1983-87, it averaged 4.5% per year, as against 3.9% per year during 1995-99. The distinguishing feature of the latter period is the unprecedented registered surge in productivity growth, having more than doubled during this short span of time.

A PHONY MEASURE

Finally, we come to the most important question of all. It concerns the role and the economic essence of the described changes in the measurement of computer hardware and software. Plainly, the resulting big additions to real GDP growth have been paramount in shaping the prevailing perception of an unfolding economic miracle in the United States. Although computer output accounts for barely 1-2% of total GDP, the statistical effects of these changes in measuring computer output growth are of such fantastic magnitude that they dominate the economic picture.

Implicitly, each dollar that the statisticians add to real GDP, either through the hedonic deflator or through capitalizing software spending, is a dollar added to measured productivity growth.

Nobody denies that the U.S. economy's performance since the middle of the 1990s has been remarkable. Nobody denies that technological progress in producing *computer power* has accelerated dramatically. What remains in dispute, however, is one question: How thoroughly has the miracle in producing computer power permeated the economy at large, as simulated by the macroeconomic statistics?

Just to give an example of the gross misconceptions that arise from the generally indiscriminate interpretation of these statistics: Recently, the Labor Department reported an increase in overall productivity by 5.3% for the second quarter and an increase in hourly pay of 4.7%. The news instantly unleashed a flood of euphoric comments to the effect that these figures ought to keep the Fed from further rate hikes. Threatening wage inflation is being solved by new records in productivity growth; at least, that's the common conclusion.

That such a crude comparison finds general approval is not only astonishing, it's shocking because it ought to be generally known that the reported overall gain in productivity growth is heavily concentrated in the high-tech sector, which accounts for a very small share of the overall economy. The most important conclusion to be drawn in light of this fact is that the Old Economy, embracing the great bulk of the economy, is exposed to heavy wage cost pressure, essentially tending to squeeze profits. It's a grossly misleading comparison, and Mr. Greenspan is definitely among those who ought to know.

WHO GAINS?

Besides, we keep wondering and wondering in vain about the economic merits of productivity growth that arises from the statistical fiction of hedonic price indexing. Productivity growth has its economic essence in reducing costs per unit of output, inherently implying a corresponding rise in income, individually and nationally. According to market forces, the resulting gain in income may translate into higher wages or higher profits, but either way, somebody enjoys an increase in income. Who in America enjoys any income gain from the big rise that the statistics show in computer output and investment, as measured by the hedonic deflator? Please stand up so that we can see you.

As shown, the hedonic price index has enormous statistical effects, considering that it has served to elevate \$28 billion actually spent on computer investment between end-1998 and mid-2000 into \$127 billion chained dollars. But

looking at these two numbers, we ask: What exactly are the underlying relevant economic effects? The \$127 billion measure the increase in computer power, say the statisticians. Strictly speaking, they mean a corresponding increase in potential computer capacity. Emphasis is on *potential*. In short, the hedonic deflator is supposed to measure how effective the new computers installed would be, if fully utilized by their buyers.

Ok, but what is the economic relevance of the measured, exponential rise in available computer power? Principally, it is the function of the gross domestic product (GDP) to measure and register the spending and income flows in the economy. Their growth is the essence of the growth of GDP product. But while the hedonic deflator creates massive increases to GDP, these flows are completely missing.

These hundreds of billions of dollars that the hedonic deflator calls into statistical existence have been nobody's expense and also nobody's revenue. The basic error in this statistical concept is to equate a fictitious collapse in prices with a boom in spending. The only economic effect that can be reasonably claimed is an increase in the capital stock, but that has conventionally zero bearing on GDP.

Investment spending derives its crucial importance for economic growth from two separate effects that it imparts to the economy, the one coming from the demand side and the other one from the supply side. In the first instance, the emphasis is on its role as a source of demand that – via the production of the capital goods – leads to corresponding, subsequent creation of incomes for the workers and of profits for businesses. In its second role, the produced capital goods become, after installation, the major determinant of capacity and productivity growth.

The intrinsic first-round effect of capital spending is the demand and income creation that it involves. Keynes and the Keynesians regarded these as the most important effects of capital spending. How do computer investment and output compare with this pattern? Not at all. Fantastic productivity gains from the inherent technological progress, as measured by the hedonic deflator, make all the difference. The producers deliver ever more computer power at gradually declining costs and prices. But savage competition forces them to pass on the higher computer power to their customers virtually free of charge.

LOUSY ECONOMICS...

In short, America's great capital spending boom on computers is statistical fiction, derived from measuring the additions to available computer power. Plainly, this constitutes a capacity effect, no more, no less, which the GDP accounts, however, principally ignore. The reported big increase in real GDP comes about through interpreting the increases in computer power as declines in prices which, in turn, are equated with a corresponding increase in capital *expenditures*, and as such it implicitly adds to real GDP.

The academics who invented the hedonic deflator may be brilliant statisticians as far as measuring computer power is concerned, but once you think it through, it reveals itself as absolutely lousy economics. It's so lousy that we keep asking ourselves, what is really behind this nonsense, just lousy economics or deliberate attempts to delude the public.

The markets are focusing on three aggregates as the emblems of America's superior economic performance. They are fixed investment, real GDP and productivity. It happens that all three are heavily bolstered by the hedonic deflator in the same way. By bloating computer investment as a component of fixed investment, it equally bloats real GDP growth and in further sequence productivity growth.

We liked the way that Alan Abelson of Barron's expressed it the other day: "For of course, there's no such thing as the New Economy. It's strictly a Wall Street conceit, enthusiastically and, as always, thoughtlessly propagated by our fellow wretches in the media." Maybe he thought he was joking. He wasn't.

...BOGUS STATISTICS

The most outspoken New-Economy skeptic in America is Prof. Robert Gordon of Northwestern University, a noted authority on productivity. In a paper circulated last year, quoted in this letter, he pointed out that the surge of growth in American labor productivity in the past years had been concentrated in the computer-*manufacturing* industry. In the other 96.5% of the economy, once you allow for the temporary effects of the business cycle, productivity growth was either unchanged or even lower than in the years before.

In a new paper, published last April, he largely confirms his earlier findings, stressing once more his key indictment of the New Economy: The information technology revolution has failed to spread its magic outside the IT-producing sector. Any improvement in productivity remains confined to durable manufacturing, that 12% of the economy which is dominated by the production of information technology hardware. He estimates that trend productivity growth in the great bulk of the economy remains as anemic as ever. He then explains why the Internet is unlikely to lead to a fundamental improvement in the American standard of living on a par with that which occurred in the wake of the Industrial Revolution.

All these facts and questions have been a prominent subject in these letters for more than two years. Superficially, we seem to agree with Gordon. In reality, we radically disagree in a key point, probably *the* key point. Gordon apparently accepts the hedonic deflator as a valid measure of computer output and consequently as a valid measure of productivity growth in that sector. The salient point here is that the fantastic productivity gains of the computer manufacturers arise overwhelmingly, if not fully, from the mindless use of the hedonic deflator. But for the reasons explained, we regard the numerical results of this deflator from an economic perspective as utter rubbish. It grossly bolsters certain numbers that play a great role in the public discussion about the U.S. economy's performance, but for consumers and businesses they have no economic relevance at all. It's bogus statistics.

EURO TRAVAILS

"Soaring share prices and the massive U.S. trade deficit are the most worrying threats to the stability of the British financial system," according to the Bank of England its semi annual Financial Stability Review published recently. If there were to be any crack in the U.S. main equity market, the feed-through to confidence might be quite significant, commented the deputy governor of the bank, David Clementi, in an interview with the Financial Times. In the last letter, we quoted the Bank for International Settlement, Basel, with the following remark from its recently published Annual Report: "Looking further ahead, the biggest policy challenge could be coping with a sudden reversal in the fortunes of the dollar."

It is our long-held view that the fate of the euro against the dollar is primarily determined by what happens in the U.S. economy and its financial markets. This was true in the 1980s and again in the 1990s, and it will definitely be true in the coming years, once the U.S. bubble bursts. Dramatic changes in sentiment and the markets only take place in the United States. Few people seem to realize what a world of difference does exist between Americans and Europeans. That applies to the whole spectrum of people: politicians, bankers, corporate managers and the broad public. It is the new fashion in America to call the Europeans inflexible. We would rather characterize Europeans as being highly conservative in economic and financial matters. Nobody in Europe is raving about technology-driven economic growth and productivity gains. If there is one, he doesn't find any publicity. Nor are stock market wealth effects a general topic of discussion.

There is a lot of talk about unemployment in Europe. Its flip side, though, is rarely mentioned. In contrast to the American worker, his European counterpart has enjoyed an uninterrupted rise in his living standard for decades, owing to wage hikes that have consistently exceeded the annual increases in the inflation rate in consumer prices. Inflation-adjusted average weekly earnings in the United States today are 13% below their high in 1973. A gradual rise in real terms, after a long decline, dates as recently as 1996. In Europe, real wage rates have virtually doubled

during this period. What has shielded the American worker from a falling living standard for more than 20 years was heavy borrowing. Just as an aside, the average European has six weeks paid holidays every year, as against two weeks in America. The ugly flip side of these horrendous wage increases is, of course, Europe's high level of unemployment.

More importantly, in recent years Europe has been mending its former wage excesses with consistent wage moderation, showing strikingly both in a gradual decline of unemployment and also in low inflation rates. Employment in Euroland grew by 1.4% during 1998 and by 1.5% in 1999. If unemployment seems high at 9% of the workforce, it is nevertheless down by 2.7% from its peak in 1997. Industrial production is up 7% year-over-year. Annualized, it is currently rising at around 8%. Broad money growth over the last year has accelerated from 4.7% to 5.6%. While the U.S. Fed refuses to worry about more than 10% broad money growth, the European Central Bank does worry about its much lower rate. Even though the weak euro and the surge in oil prices have boosted the level of import prices by 20%, the inflation rates – 2.4% headline inflation and 1.4% core inflation – look rather tame in comparison to a U.S. headline inflation rate of 3.5%. However, while policymakers and the public in the United States seem to regard inflation at this rate as virtually nonexistent, the ECB considers 2% as the tolerable limit. As to real GDP growth in 2000, the consensus forecast for the euro-zone is around 3.5% this year.

THE UGLY TRUTH

What's wrong with this economic picture? Nothing really, except that there is nothing exciting. Yet, not so long ago, this pattern would have been hailed as a Goldilocks scenario, not too hot, not too cold. Overall, it is definitely "well-balanced" growth. The external current account of the region is slightly in surplus. The main engine of growth is non-residential investment spending. Wages per worker are up a little more than 2% on average. Compared to overall productivity of 1.5%, this implies a slight increase in unit labor costs. Essentially, both wage and productivity numbers differ considerably between countries as well as between branches of the economies.

In the currency markets, a lot of hope was attached to the possibility that growth in the euro-zone would outpace that in the United States. Stronger growth and much lower inflation than in the United States were expected to make European assets attractive and pull in foreign capital. As a result, investors would do well both on the appreciating currency and on their euro assets. We readily admit that we are among those who are convinced this will happen, and have been for some time. Our fault is to have underestimated how much and for how long manipulated numbers can manipulate market opinion.

If there seemed to be an impending prospect of a change in market opinion, it was battered by a few good news items about the American economy and one bad news item from Germany that took the markets completely by surprise. On the part of the U.S. economy, these were the astoundingly high GDP and productivity figures for the second quarter, both of them exceeding 5%. Together, they helped to strengthen anew, just at a critical juncture, the notion that the U.S. economy has, indeed, undergone far-reaching structural changes that warrant high growth with high productivity in the long run.

At the same time, one single piece of bad news, among numerous good news, is said to have cast a shadow over economic prospects in the euro-zone. That was the recently published Ifo indicator for German business confidence, showing a decline for the second month. It instantly made headlines throughout the global media. Just the day before, the Bundesbank August monthly report said that, according to estimates, second-quarter domestic product had grown by 1% quarter on quarter. In America, this same number would be presented at its annualized rate of 4%. Neither the media nor the currency markets took notice.

The ugly truth seems to be that, whatever positive happens in the euro-zone, the U.S. economy is doing better. Even if the U.S. economy is going to slow down, it is now widely believed that it will be capable of growing just as fast as the economy of the zone at the top of the business cycle.

Likewise, few people noted that the Bundesbank had explicitly pointed out for the first time that comparisons of

economic growth between the United States and Germany were grossly distorted by the so-called hedonic price adjustments, used in the U.S. statistics to measure increases in computer power. Had the German statisticians applied the U.S. methods for deflating IT equipment, according to the Bundesbank, real IT investment in Germany in 1998 would have been DM 64 billion, that is, twice as high as reported. In 1999, the difference would have risen to 170%.

According to the measurement practiced in the German GDP statistics, computer prices have fallen by 20% *altogether* since 1991. By the measurement practiced in the United States, they have fallen 26% a year for the past five years. Official statistics for the United States show an average annual increase in business expenditures on computer equipment per year by 40% since 1991, as against only 6% in Germany. Using, the American deflator, however, the average annual increase would have been 27.5% for the whole period. As the divergence in the deflators is rapidly compounding over time, the divergence in measured output follows suit. Numbers get more and more absurd. Just think of what we mentioned earlier: fixed nonresidential investment, of which 75% is "hedonised" new high tech, have accounted for 55% of U.S. real GDP growth in the first half of 2000.

In other words, the hedonic deflator has come to represent the most powerful factor behind the seemingly miraculous growth of U.S. GDP and productivity.

Inreality, hedonic price indexing corrupts the U.S. economic statistics in two ways. Gross overstatement of apparent fixed investment, GDP and productivity growth is the most obvious part. The other part is understatement of apparent inflation rates. In a recent report, the Commerce Department said that the falling prices for electronic and computer equipment have pulled down inflation rates by half a percentage point a year.

The essential conclusion is that U.S. economic growth, deprived of the hedonic deflator, is anything but illustrious. Not only that. It's obvious true decisive propellant was the consumer borrowing and spending binge, which Mr. Greenspan chooses to ignore in public. Credit excesses have many parallels in history, but those in the United States of the last few years are of such extreme magnitude that they suggest a form of collective, manic euphoria. Importantly, this influence is being rapidly eroded by the steep rise of imports. Totaling \$120 billion in June, they were up 19%, year-over-year, telling us that an ever-greater part of domestic spending is leaking abroad. Outside the IT sector, imports are rising many times faster than domestic output. Consider that in the second quarter, the net increase in the trade deficit absorbed 1.51 percentage point of GDP growth. For sure, the borrowing and spending binge is an absolutely unsustainable element.

WHAT REALLY AILS THE EURO?

Comparing economic growth in Europe with that in the United States, we must say that we have a distinct preference for the European pattern, for one overriding reason. That's the virtual absence of major excesses and imbalances. Europe, too, has fully participated in the global stock market mania, but with two very important differences to America: first, participation of the public is incomparably smaller; and second, there was no visible effect on consumer spending.

And look at the economic fundamentals: the region's current account is in equilibrium with a slight surplus, a gross investment ratio of about 21% is fully matched by domestic savings; broad money growth of 5.3% is a little in excess of the central bank's target of 4.5%, but little more than half the rate in the United States. Debt and credit expansion are incomparably lower than in the United States. In short, absence of any excesses.

So what is ailing the euro? Three things: statistics, perceptions and propaganda. The main argument for dollar strength and euro weakness is the perception that the U.S. economy is going from strength to strength because it is enjoying peerless productivity gains from vastly superior investments in the new information-technology. We have seen that the apparent, big technological gap, suggested by the official statistics, results overwhelmingly from the use of extremely different yardsticks for computer output and investment. Hedonic price indexing is grossly exaggerating the rate of U.S. economic growth.

That's the underlying fact. But in addition there is something that plays perhaps the most important role in having created the glowing perception of unprecedented American economic superiority, and that is the enormous fuss that American propaganda has made of it. We hasten to add that the person who has done far more than anybody on Wall Street in this respect is Mr. Greenspan. While hardly ever mentioning words like credit, money or debt, his speeches about the U.S. economy abound with three words: technology, innovation and productivity. Somebody noted that in his last 10 speeches, he used these words 281 times. In his most recent speech, at the Kansas City Fed's annual symposium, he explicitly repeated again that Continental Europe has benefited much less from the new technology owing to a lower level of high-tech capital investment and inflexible labor markets.

CONCLUSIONS:

The bogus numbers about U.S. GDP and productivity growth for the second quarter have once more postponed the day of reckoning for the U.S. financial markets and the dollar.

The great digital divide between America and Europe is not in the economies. It is in vast differences in statistical measurement and in the propaganda.

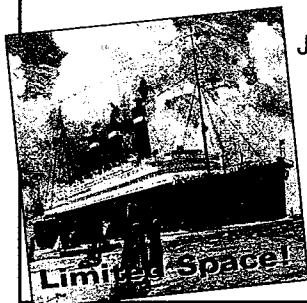
Fed members in general and Mr. Greenspan specifically play a key role in misinforming the public. Nevertheless, the rapidly deteriorating fundamentals of the economy and the financial system - trade deficit, savings, indebtedness - are inexorably leading to the bursting of the bubble. We regard it as quite near, yet precise timing is not possible.

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